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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,123	12/15/2003	Antony F. Grattan	2003-IP-011256 U1 USA	3596
30652	7590	12/16/2005	EXAMINER	
CONLEY ROSE, P.C. 5700 GRANITE PARKWAY, SUITE 330 PLANO, TX 75024			GAY, JENNIFER HAWKINS	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,123	GRATTAN ET AL.	
	Examiner	Art Unit	
	Jennifer H. Gay	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-39 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 December 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/21/04.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract includes the implied phrases "The present invention is concerned with" and "One embodiment uses". Correction is required. See MPEP § 608.01(b).
2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the collection of explosive material including a spherical mass of explosive material as recited in claims 4 and 13-15 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because the labels in the figures should be limited to reference characters for the sake of clarity and the ability to easily discern features on the figures. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR

1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

6. Claims 22, 38, and 39 are objected to because of the following informalities:
- Claims 22 and 39 are objected to because recitation of “at least one initiator” for each region of explosive material should be differentiated from the other initiators.
 - It is suggested that claim 38 was intended to depend from claim 22 as it is not clear to the examiner how the shaped-charge can pre-score the tubular simultaneously with the arrival of the first and second pressure waves if the shaped-charge is initiated prior to the arrival of the waves. For the purposes of examination, claim 38 will be treated as depending from claim 22.
Applicant is reminded that if the dependency of claim 38 is changed, the claim should be reviewed for proper antecedent basis for all recited limitations.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 9, 12-14, 16, 17, 19-22, 24, 26, 29, 30, 32, 34, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Christopher (US 3,053,182).

Regarding claim 1: Christopher discloses an explosive severing device that includes the following features:

- An exterior housing that includes an interior extending between the ends of the housing.

- An explosively coupled collection of explosive material located within the interior (Figure 1).
- A first initiator **40** (uppermost in Figure 1) coupled with a collection of explosive material at a first location **35**.
- A second initiator **40** (middle in Figure 1, not labeled) coupled with a collection of explosive material at a second location.
- A third initiator (Figure 3) coupled with a collection of explosive material at a location between the first and second location **48**.
- At least one detonator **29, 30** coupled to at least one of the initiators to initiate a timed sequence of initiation of the initiators contacting the explosive materials.

Regarding claim 2: The housing is approximately tubular.

Regarding claim 3: The collection of explosive material comprises a column of explosive material.

Regarding claim 4: The collection of explosive material comprises a spherical mass of explosive material **48**.

Regarding claim 9: The third initiator is located at a point between the first and second initiators and is coupled to the detonator in a manner designed to produce initiation at a pre-selected time.

Regarding claims 12, 26: The pre-selected time is subsequent to the initiation of the first and second initiators.

Regarding claim 13: The device includes a plurality of the initiators **40** are interspersed upon the surface of the spherical explosive material.

Regarding claim 14: The device includes a plurality of the initiators are interspersed within the surface of the spherical explosive material.

Regarding claims 16, 17, 19, 29, 30, 32, 34: The initiators are electrical and explosive initiators, i.e. detonator is electrically actuated to set off explosives in the initiators.

Regarding claims 20, 21: The explosive materials can be the same or different speed of propagation of a pressure wave depending on the explosive material used.

Regarding claims 22, 39: Christopher further teaches a method for using the above device that includes using the first two regions of explosive materials to create two pressure waves and the third region to create a pressure wave therebetween.

Regarding claim 24: The first and second pressure waves are initiated sequentially.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 10, 15, 18, 25, 28, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christopher.

Regarding claims 10, 25, and 28: Christopher discloses all of the limitations of the above claims except for the third initiator being activated prior to the activation of the first and second initiators. However, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Christopher so that the third initiator was activated prior to the activation of the first and second initiators in order to have prevented damage to the third explosive material due to the detonation of the first two explosive materials.

Regarding claim 15: Christopher discloses all of the limitations of the above claims except for the initiators being offset from but in close proximity to the surface of the spherical explosive material. However, It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Christopher so that the initiators where located offset from but in close proximity of the surface of the spherical explosive material in order to have prevented determinately interaction between the initiators and the explosive material.

Regarding claims 18 and 31: Christopher discloses all of the limitations of the above claims except for the initiators being optical initiators. However, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used an optical initiator in the device of Christopher, since the examiner takes Official Notice of the equivalence of optical initiators and explosive or electrical initiators for their use in the explosives art and the selection of any of these known equivalents to detonate the explosive material of Christopher would be within the level of ordinary skill in the art.

Regarding claim 33: Christopher discloses all of the limitations of the above claims except for the explosive initiators being of unequal lengths. However, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have formed the initiators of unequal lengths in order to have controlled the timing of the pressure wave propagation of the respective pressure waves.

11. Claims 6-8, 11, 23, 27, and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christopher in view of Regalbuto (US 4,290,486).

Regarding claims 6, 7, 38: Christopher discloses all of the limitations of the above claims except for the third initiator being coupled to a shaped-charge assembly with a liner.

Regalbuto discloses a device similar to that of Christopher. Regalbuto further teaches a third explosive material that is a shaped-charge **68, 72** located between the first and second explosive materials. The shaped-charge includes a liner **70, 74**.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Christopher so that the third initiator was coupled to a shaped-charge assembly as taught by Regalbuto in order to have provided a precise and directed explosive charge against the tubing.

Regarding claims 8, 11, 23: Christopher discloses all of the limitations of the above claims except for the first and second initiators being activated simultaneously.

Regalbuto further teaches that the initiators of the first **62** and second **64** explosive materials are detonated simultaneously (10:15-20).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Christopher so that the first and second initiators were activated simultaneously as taught by Regalbuto in order to have ensured that the upper and lower portions of the tubing were severed or weakened at the same instance thus preventing the tubing from buckling and possibly damaging the device.

Regarding claim 27: The third explosive material is detonated at the same time as the first and second explosive materials of Regalbuto.

Regarding claims 35-37: Christopher discloses all of the limitations of the above claims except for the third initiator being coupled to a shaped-charge assembly with a liner and except for the third initiator being activated prior to the activation of the first and second initiators.

Regalbuto discloses a device similar to that of Christopher. Regalbuto further teaches a third explosive material that is a shaped-charge **68, 72** located between the first and second explosive materials. The shaped-charge includes a liner **70, 74**.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Christopher so that the third initiator was coupled to a shaped-charge assembly as taught by Regalbuto in order to have provided a precise and directed explosive charge against the tubing.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Christopher in view of Regalbuto so that the third initiator was activated prior to the activation of the first and second initiators in order to have prevented damage to the third explosive material due to the detonation of the first two explosive materials.

Conclusion

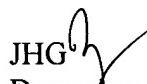
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H. Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer H Gay
Primary Examiner
Art Unit 3672



JHG
December 7, 2005